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SUBJECT: OECD REPORTING: REPORT OF THE NUCLEAR ENERGY AGENCY MEETING ON SECURITY OF SUPPLY OF MEDICAL ISOTOPES, JANUARY 29-30, 2009

¶1. (U) This is an information cable.

SUMMARY

¶2. (U) The Nuclear Energy Agency (NEA) Workshop on the Security of Supply of Medical Isotopes convened in Paris on January 29-30, 2009 and was well attended by representatives of government, industry, the health industry, intergovernmental and non-governmental organizations, and trade associations. There were over eighty participants from thirteen OECD countries and three non-OECD countries. The participants discussed the vulnerability of the global medical isotope industry, which depends on a limited number of aging nuclear research reactors for isotope production and a complex processing and distribution chain for delivery. Several regional and global supply disruptions in the recent past were analyzed. One of the major conclusions was that due to the condition of the reactors and lack of investment for improvement, the vulnerability of the supply chain is likely to persist, if not to increase, for several years. Alternatives to alleviate problems in the short term and possibilities to increase isotope supply in the long term were discussed. U.S. National Academies' representative presented the highlights of the recent study on isotope production without using highly enriched uranium (HEU). The U.S. government representative outlined the Department of Energy's requirements under the Energy Policy Act 2005. The law requires a report to the U.S. Congress disclosing the existence (extent) of any commitments by commercial isotope producers worldwide to provide Mo-99 by 2013 to the U.S. Market using low enriched uranium (LEU) target irradiation. It was announced that Mo-99 producers and those with plans to produce Mo-99 for the U.S. market would receive

letters in March 2009 requesting information on their intent to supply Mo-99 to the U.S. market using LEU targets by the end of this four-year time frame. END SUMMARY.

DETAILS OF THE DISCUSSIONS

¶3. (U) The primary themes of the NEA workshop were, for the short term, the "crisis of Mo-99 supply" due to unscheduled outages and the need to stabilize the aging reactor fleet to provide reliable services to the nuclear medicine industry, and for the long-term, the need for new sources of supply and new technologies to deliver Mo-99.

¶4. (U) Highlights included reactor operators discussing a price-depressed market and the difficulty with operation of 40-plus year-old reactors, and concern for missed schedules and the impact on the patient. Other representatives of the supply chain also stressed the need for improved organization for delivery of product and communication with medical community and customers. Both reactor operators and suppliers spoke out on the need for more revenue to address capital investments for aging reactors, but repeatedly spoke of the market's inability to accept any price increases to cover the costs. Some arguments were contradictory and were questioned during question and answer periods. Participants noted that due to the age and increasing maintenance requirements of the major production reactors, vulnerability of the isotope supply chain is likely to persist, if not increase, for several years. To reinforce this point, producers briefed their proposed future outage schedules, which could well contribute to further disruptions in supply.

¶5. (U) Dr. Kevin Crowley of the National Academies delivered a presentation on its recent study entitled "Medical Isotope Production without Highly Enriched Uranium". He fielded a number of questions and comments. Reactor operators spoke of their unwillingness to implement an 'unknown technology' (i.e. LEU targets) on a large scale for fear of more shutdowns and shortages. ANSTO's representative and director of the LEU-operated OPAL reactor offered that it was not an untested technology and that OPAL has been operating successfully for five years using LEU targets. Successful operation, however, required a great deal of planning. Industry representatives asserted that LEU-based production still needed to be demonstrated at a global scale and that economics and logistics needed to be assessed. Dr. Crowley responded that no single template for conversion would be available to a reactor operator and that R and D would be needed for each particular facility. The national academies report can be accessed at: www.nasonline.org.

¶6. (U) There were a number of comments about the U.S. nonproliferation policy of HEU minimization. Though representatives agreed that nonproliferation is important, there was a pushback on conversion to LEU targets. Dr. Parrish staples, U.S. Department of Energy/National Nuclear Security Administration (NNSA) representative, in an explanation of the Energy Policy Act of 2005 requirement to conduct the national academies study, reminded attendees that all but three governments in attendance at the meeting had agreed to participate in the global initiative to combat nuclear terrorism, and therefore, HEU minimization was "their governments' policy" as well. The meeting also offered an opportunity for Dr. Staples to announce the DOE/NNSA's plan to canvass reactor operators or potential new suppliers about their intent or extent of their commitments to supply Mo-99 to the U.S. market using LEU targets by 2013, and inform them about the fast track for a report to the U.S. congress on producers' intentions. Letters would be sent to reactor operators, other key Mo-99 producers and potential producers by March 1, 2009 with a response requested on or about May 1, 2009.

¶7. (U) Efforts to enhance reliability of short-term supply were discussed and proposed during the meeting. These included, but were not limited to: continued information sharing and enhanced communication of reactor maintenance schedules, development of contingency plans for handling future supply disruptions, notification of outages and anticipated length of outages, development of a communication strategy for the transport community

to avoid disruption of shipments, and interface with the medical community to explore options for efficient patient scheduling and utility of TC-99 generators. Requests for assistance were sought from the Association of Imaging Producers and Equipment Suppliers (AIPES), the International Community of Societies of Nuclear Medicine, and the International Atomic Energy Agency (IAEA) for coordination of capabilities that will streamline delivery of product to the medical community.

¶8. (U) As for future additional capacity, there was recognition that sufficient new capacity could take as long as 5-10 years to come online. Presentations from the Republic of Korea and Japan revealed that those countries would begin significant research and development programs to prepare for domestic production of Mo-99/Tc-99. Other countries voiced concern about ensuring a reliable domestic supply of this critical medical resource. Although there were references in the National Academies study and during the workshop to commercial interest in the United States to build a domestic capability, no specific discussion of this subject occurred during the meeting. Representatives from B and W and the University of Missouri attended the meeting but did not discuss any detailed plans for a domestic supply of LEU-based Mo-99.

¶9. (U) Participants suggested that the NEA organize a workshop in coordination with the IAEA to carry forward the agenda of the workshop and to review additional practical measures that could be taken.

¶10. (U) A side meeting was held with the Canadian delegation in view of Canada's role as primary supplier of Mo-99 to the U.S. Associate Deputy Minister of Natural Resources Canada, Serge DuPont, led the meeting for Canada. It was an informative and candid discussion on a range of topics including: HEU minimization, target conversion to LEU, and HEU waste management.

¶11. (U) If posts would like additional information about the meeting or background on the subject of Mo-99 production and conversion to LEU targets, the DOE/NNSA point of contact is Parrish Staples at email parrish.staples@nnsa.doe.gov or phone (202) 586-4042.

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